

AMENDMENTS TO THE CLAIMS:

Claims 1, 2, 6, 10, 14, and 18-26 are canceled without prejudice or disclaimer. Claims 29-43 are added. The following is the status of the claims of the above-captioned application, as amended.

Claims 1-28 (Canceled).

Claim 29 (New). A variant of a parent Glycoside Hydrolase Family 53 galactanase, comprising an alteration in at least one of the following positions:

90, 91, 181, 303, 305, and 313,

wherein

- (a) each position is the number of the corresponding amino acid residue in SEQ ID NO: 1;
- (b) the alteration(s) are independently
 - (i) an insertion of an amino acid immediately downstream of the position,
 - (ii) a deletion of the amino acid which occupies the position, and/or
 - (iii) a substitution of the amino acid which occupies the position; and
- (c) the variant has galactanase activity.

Claim 30 (New). The variant of claim 29, wherein the alteration(s) are substitutions.

Claim 31 (New). The variant of claim 29, wherein the variant comprises at least one of the following substitutions:

90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

91A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

181A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

303A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

305A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or

313A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y.

Claim 32 (New). The variant of claim 29, wherein the variant comprises at least one of the following substitutions:

(a) Y214N,S+N247Y+L306Q; Y214A; F216FVASTG; and/or P89W+W86N;

(b) A90S+H91D; H91N,L,D; N313D; N303D,H; and/or N305D,H;

(c) Y22P, N24P, T25P, A29P, A53P, N56P, T93P, D101P, W142P, T147P, Q198P, L203P, S204P, S219P, S258P, S288P, A304P, A311P, Q318P, A322P, S324P, S325P, and/or S327P;

(d) W107S,H;

(e) Q126E;

(f) N39C+L326C; V20C+G320C; Y110C+G163C; W150C+N194C; T274C+V328C; and/or I301C+F316C; and/or

(g) A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; and/or
N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y.

Claim 33 (New). The variant of claim 32, which is a variant of a *Myceliophthora thermophila* galactanase.

Claim 34 (New). The variant of claim 29, wherein the variant comprises at least one of the following substitutions:

(a) V20P, V25P, E29P, V41P, V50P, W53P, N56P, T94P, A96P, W142P, L169P, W185P, Q198P, M203P, A219P, A221P, T222P, Q258P, A261P, D262P, S288P, N305P, A311P, A322P, S324P, and/or S325P;

(b) T113C+G163C, W185C+S229C, S218C+A221C, R227C+V283C; and/or

(c) A90C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
H91A,C,D,E,F,G,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
N181A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
N303A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
N305A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y; and/or
N313A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y.

Claim 35 (New). The variant of claim 34, which is a variant of a *Humicola insolens* galactanase.

Claim 36 (New). The variant of claim 29, wherein the variant comprises at least one of the following substitutions:

- (a) D181N, D181N+S90A+D91H;
- (b) T3P, Y20P, N24P, L25P, T29P, A31P, V50P, S53P, S56P, T93P, T94P, S96P, W142P, L144P, E146P, T147P, T172P, E200P, S203P, A219P, A256P, A258P, S261P, S264P, I266P, T288P, I301P, A304P, Y318P, and/or E324P;
- (c) L13C+L65C, N24C+Q30C, S218C+A221C, A304C+Y318C; and/or
- (d) S90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
D91A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
D181A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
G305A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or
N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; and/or
- (e) I9F,Y,W; L12V; L80F; L82Y; F191Y,W; Y213F; I9W+L12V; L82Y+L80F.

Claim 37 (New). The variant of claim 36, which is a variant of an *Aspergillus aculeatus* galactanase.

Claim 38 (New). The variant of claim 29, wherein the variant comprises at least one of the following substitutions:

- (a) K-6P, S-4P, L-2P, K1P, V20P, S26P, K29P, D31P, A54aP, G54eP, N57P, K93P, A97P, N101P, S171P, S185P, T256P, N260P, N266P, D286P, E288aP, A289P, A302dP, S302yP, Y302zP, A302bbP, E302ccP, E302ggP, F305P, D311P, F318P;
- (b) S18C+Y302qC, G40C+Q330C, V44C+A69C, I48C+A62C, N50C+D84C, G54gC+T302xC, N56C+G302rC, A62C+G146C, K106C+A159C, K114C+A163C, E183C+G221C, T227C+A283C, A234C+V241C, Y250C+Q273C, A302aaC+A302iiC; and/or
- (c) A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
K91A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
K303A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
F305A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or
Q313A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y.

Claim 39 (New). The variant of claim 38, which is a variant of a *Bacillus licheniformis* galactanase.

Claim 40 (New). The variant of claim 29, wherein the parent galactanase has an amino acid sequence which has a degree of identity to the amino acid sequence of SEQ ID NO: 1 of at least 25%.

Claim 41 (New). The variant of claim 29, wherein the parent galactanase is obtained from a strain of *Aspergillus*, *Bacillus*, *Bifidobacterium*, *Cellvibrio*, *Clostridium*, *Hemicola*, *Meripilus*, *Myceliophthora*, *Pseudomonas*, *Thermomyces*, *Thermotoga*, *Xanthomonas*, or *Yersinia*.

Claim 42 (New). An animal feed composition, comprising a variant of claim 29.

Claim 43 (New). A method for hydrolyzing lactose, comprising treating the lactose with a galactanase variant of claim 29.